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**MEDICAL DIAGNOSES IN OPERATIONS OTHER THAN WAR (OOTW):
RELATIONSHIP TO DEPMEDS PATIENT CONDITIONS**

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Summary

Problem

Medical readiness is an integral part of any military operation. Generally, military medical requirements are based on the Deployable Medical Systems (DEPMEDS), a Department of Defense initiative designed to project, assemble, and deploy required medical materiel to theaters of operations. DEPMEDS currently is based on 319 diseases and injuries, or patient conditions (PCs), that are likely to occur during combat operations. However, operations other than war (OOTW), including humanitarian and peacekeeping missions, have increased in frequency. Due to changes in US military strategy and recent global political developments, this upward trend in OOTW is likely to continue over the next two decades, and medical practitioners may encounter injuries and diseases that differ, both qualitatively and quantitatively, from those typically seen in combat operations. If this occurs, DEPMEDS will need to be updated to reflect these changes.

Objective

The current study examines a set of outpatient diagnoses derived from an OOTW medical operation to determine whether these diagnoses can be mapped to the current DEPMEDS PC list, and whether consequent revisions in DEPMEDS are indicated.

Approach

Outpatient diagnoses were collected at a triservice field hospital in Zagreb, Croatia, during a multinational peacekeeping mission. Each diagnosis was coded according to the International Classification of Diseases, Ninth Revision (ICD-9) and was subsequently mapped to its corresponding DEPMEDS PC code. Diagnoses that did not map to a PC code were examined to determine how best to expand DEPMEDS to account for them in the planning process.

Results

A total of 5806 outpatient diagnoses were examined. Approximately 62% of these (n=3593) were mapped to an existing DEPMEDS PC. Respiratory diseases were mapped most often, with only 25 of 1095 occurrences (2.28%) remaining unmatched. The remaining 38% of diagnoses (n=2213) could not be mapped precisely to a PC. Injury was the largest category, both in frequency (n=1916) and in number (n=665) and proportion (30.04%) of unmatched cases. Among other classifications, more than 50% of musculoskeletal, circulatory, genitourinary, gastrointestinal, and infectious disorders were unmapped.

Conclusions

The current DEPMEDS PC list does not describe all diseases and illnesses likely to be treated during OOTW. For example, some of the less serious afflictions, such as headaches or gastrointestinal upsets, have no clear parallel in DEPMEDS, and systemic conditions, such as diabetes or arthritis, are not covered at all. Several explanations may account for this: (1) some conditions treated during OOTW do not yet have a designated PC, since OOTW may differ from combat operations in population served and type of medical care provided; (2) information about the etiology of the condition may be insufficient; and (3) the nomenclature used by various medical personnel is not standardized, resulting in seemingly variant diagnoses.

MEDICAL DIAGNOSES IN OPERATIONS OTHER THAN WAR (OOTW): RELATIONSHIP TO DEPMEDS PATIENT CONDITIONS

Introduction

To determine supply, equipment, skill, and personnel requirements for military medical operations, planners and logisticians project types and occurrence rates of battle injuries and diseases likely to be encountered by US forces in a designated combat theater. In 1985 the Joint Services launched Deployable Medical Systems (DEPMEDS), a modular system designed to facilitate such medical resource planning.¹ DEPMEDS projects medical requirements, then it allocates sufficient supplies, equipment, and personnel to provide treatment to the anticipated array of casualties falling within the 319 Patient Conditions (PCs)² seen in Appendix A.

In a military deployment, there are four levels, or echelons, of care, ranging from Echelon I, which is battlefield care, to Echelon IV, which provides definitive care. Echelon V provides convalescent care in the Continental United States (CONUS). The DEPMEDS model determines requirements for Echelons III and IV,³ and the Naval Health Research Center has developed a compatible model for Echelons I and II.⁴ In these models, each PC is linked to a list of the medical tasks required to treat the condition at a given echelon. The supplies, skills, and time required to perform each task can be quantified, and thus, a supply stream can be generated.

A potential problem exists with the current list of DEPMEDS PCs as a result of changes in US strategic and tactical defense policy since the end of the Cold War. The Department of Defense (DoD), no longer preparing for major global conflict, has reframed its mission to prepare for major regional contingencies such as the Persian Gulf War.⁵ US military medical services also are deploying, with increasing frequency, on operations other than war (OOTW), such as humanitarian or peacekeeping missions, in places such as Somalia, Turkistan, Bangladesh, Bosnia, and Haiti. Given the high profile the military medical services are likely to take in such operations, this new focus on OOTW raises the question of whether the PCs that currently drive DEPMEDS can support adequate planning for OOTW deployments. Such deployments may differ from combat situations in demographics of patient population, types of medical conditions seen, as well as the nature of medical care provided. OOTW missions may differ as well. It seems apparent that a humanitarian mission, tending to a civilian population in dire circumstances, would yield a different set of medical problems than a peacekeeping mission, which serves a military population in a fairly stable situation. As a first step toward addressing this problem, a set of outpatient diagnoses collected at a triservice field hospital in Zagreb, Croatia, during a multinational peacekeeping mission, were examined. Studies of a humanitarian OOTW are indicated for future efforts in order to make comparisons between missions and to aid in medical planning by providing a complete representation of OOTW PCs.

Method

Staff of the US Air Force's 48th Air Transportable Hospital (ATH) created a database using outpatient, admission, and surgical diagnoses from the patient medical records of the field

hospital in Zagreb, Croatia, between September 1992 and March 1994.⁶ The hospital served a United Nations force of approximately 25,000 troops on a peacekeeping mission. Table 1 shows a breakdown, by unit command, of the number of patients treated, diagnoses, follow-up visits, total admissions, and total operations.

Table 1. Number of Outpatient Visits, Admissions, and Operations by Unit Command

	212th MASH	502nd MASH	48th ATH	Row Totals
Patients Treated	1178	1425	2009	4612
Diagnoses Treated	1404	2008	3357	6769
Follow-up Visits	216	464	2318	2998
Total Outpatient Visits	620	2472	5675	9767
Total Admissions	338	317	349	1004
Total Operations	206	144	188	538

Outpatient diagnoses, rather than admissions, were selected for this study because there were nine times more of them in the database (see Table 1). Follow-up visits were excluded to avoid replication, and elective surgeries, all dental diagnoses, and visits where a diagnosis was not achieved, also were eliminated. Researchers from the Naval Health Research Center analyzed the remaining 5806 diagnoses.

The diagnoses were reviewed and classified using the 17 major categories of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM).⁷ This step was required because a standardized nomenclature for recording diagnoses was not used in Zagreb. For example, one patient seen for hypertension might show a diagnosis of "high blood pressure" while another might have a shorthand entry of "HBP," or "HTN," and yet another might have "probable hypertension," all for the same condition. Applying ICD-9 terminology to the primary diagnoses reduced the variability in the diagnostic language.

To verify the matching process, electronic searches of a computer copy of the DEPMEDS PC treatment briefs³ were performed to determine whether any PC contained the same text as the primary diagnoses. All probable combinations of words used in the diagnoses were searched. If the electronic search found the text string in the title of a PC treatment brief, then the match was confirmed. If not, the lack of a match was confirmed.

In this manner, the primary diagnoses for the 5806 cases were sorted by ICD-9 categories, and, where possible, they were matched to a corresponding PC code. In both the matching and the verification process, no inferences were made; if the precise terminology of a diagnosis was not reflected in the PC code, then that case was considered unmatched.

Results

A breakdown of diagnoses by ICD-9 categories is shown in Table 2. The first two categories, Injury and Poisoning and Diseases of the Respiratory System, accounted for more than half of all outpatient diagnoses, while the categories for endocrine disorders, blood diseases, and congenital anomalies accounted for less than 1%. There were no diagnoses in the categories covering complications of pregnancy or perinatal conditions. Of the 5806 diagnoses considered, 2213 (38.12%) could not be matched to a PC code. Table 3 displays the frequencies of these unmatched diagnoses, along with the within-category percentage of unmatched cases (Column 4) and the proportion of total unmatched cases (Column 5), for each ICD-9 major category. In general, Injury and Poisoning, Musculoskeletal Diseases, and Digestive Diseases comprised more than half of the unmatched diagnoses, while Respiratory Diseases and Neoplasms were almost always matched and represented only 1.13% of unmatched cases. A summary of reasons for unmatched diagnoses appears in Table 4, and results for individual categories are detailed in the following paragraphs.

Table 2. Frequencies of Outpatient Diagnoses, by ICD-9 Major Category

ICD-9 Major Category	N	Cumulative Percent
Injury and Poisoning	1916	100.00%
Diseases of the Respiratory System	1095	67.00%
Diseases of the Digestive System	479	48.14%
Diseases of the Musculoskeletal System and Connective Tissue	449	39.89%
Diseases of the Nervous System and Sense Organs	400	32.16%
Diseases of the Skin and Subcutaneous Tissue	363	25.27%
Infectious and Parasitic Diseases	359	19.02%
Symptoms, Signs and Ill-defined Conditions	213	12.83%
Diseases of the Genitourinary System	179	9.16%
Mental Disorders	115	6.08%
Diseases of the Circulatory System	104	4.10%
Neoplasms	77	2.31%
Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorders	54	0.98%
Diseases of the Blood and Blood-forming Organs	2	0.05%
Congenital Anomalies	1	0.02%
Complications of Pregnancy, Childbirth, and the Puerperium	0	0.00%
Certain Conditions Originating in the Perinatal Period	0	0.00%
Total	5806	

Table 3. Diagnoses Not Matched to PC Codes, Classified by ICD-9 Major Category

ICD-9 Category	Total Cases	Unmatched Cases	% of Category Unmatched	% of Total Unmatched Cases
Injury & Poisoning	1916	665	34.71%	30.04%
Musculoskeletal	449	334	74.39%	15.09%
Digestive	479	249	51.98%	11.25%
Symptoms & Signs	213	203	95.31%	9.17%
Infectious Diseases	359	177	49.30%	8.00%
Skin	363	164	45.18%	7.41%
Nervous & Sensory	400	139	34.75%	6.28%
Genitourinary	179	103	57.54%	4.65%
Circulatory	104	69	66.35%	3.12%
Endocrine Nutrition	54	54	100.00%	2.44%
Mental Disorders	115	28	24.35%	1.27%
Respiratory	1095	25	2.28%	1.13%
Blood & Blood-forming	2	2	100.00%	0.09%
Congenital Anomalies	1	1	100.00%	0.05%
Neoplasms	77	0	0.00%	0.00%
Total	5806	2213	N/A	100.00%

Table 4. Reasons for Unmatched Diagnoses, by ICD-9 Category

ICD-9 Category (Brief Title)	No Matching PC Code	Insufficient Information	Different Nomenclature	Total Cases
Injury and Poisoning	63	151	451	665
Musculoskeletal	88	212	34	334
Digestive Diseases	81	164	4	249
Symptoms and Signs	---	203	---	203
Infectious Diseases	70	104	3	177
Skin and Subcutaneous	44	14	106	164
Genitourinary D	91	12	---	103
Nerves & Sensory	118	21	---	139
Circulatory	33	36	---	69
Endocrine & Nutrition	54	---	---	54
Mental Disorders	---	28	---	28
Respiratory	---	13	12	25
Blood and Blood-forming	2	---	---	2
Congenital Anomalies	1	---	---	1
Neoplasms	---	---	---	0
Complications of Pregnancy	---	---	---	0
Perinatal Conditions	---	---	---	0
Total	645	958	610	2213

Injury and Poisoning. Injuries occurred most frequently in this sample (n=1916), and diagnoses in this category accounted for the largest proportion (30.04%) of all unmatched cases. About one third of injury diagnoses could not be matched to a PC code. However, inspection of primary diagnoses showed that most of the 665 unmatched cases resulted from differences in terminology. For example, superficial soft-tissue injuries, such as contusions, abrasions, and lacerations, accounted for 30.4%, and sprains/strains accounted for another 29.3%. In 23.8% of cases, including burns, fractures, gunshot wounds, amputations, head injuries, and nonspecific injuries, the diagnostic language was not specific enough to match to a highly descriptive PC code. One diagnosis, blunt trauma, did not map to a PC code; there were 63 such diagnoses in the Injury category.

Diseases of the Musculoskeletal System and Connective Tissue. Nearly 75% of the 449 musculoskeletal diagnoses did not map to a PC code; these 334 unmatched cases accounted for 15.09% of the total. "Pain" in various body parts was the diagnosis in 161 cases, and this generality of language may account for the lack of a PC match. Inflammatory conditions (n=61) such as arthritis, bursitis, fascitis, osteomyelitis, costochondritis, and epicondylitis, and patellofemoral syndrome and other degenerative joint diseases (n=27) had no corresponding PC code. The remaining 25.45% of diagnoses, including muscle spasms, cysts, sciatica, effusion, and disk disorders, also were not covered by the PC list.

Diseases of the Digestive System. Digestive disorders represented 11.25% of diagnoses that did not map to a PC code. With 249 of 479 diagnoses unmatched, more than half (51.98%) did not compare to a specific PC code. Within the category, the diagnostic cluster including gastroenteritis, enteritis, and enterocolitis included 117 (47%) cases. No PC code corresponded precisely to these conditions, although if their etiology were known, a match might be made within the PC codes for food poisoning, diarrheal disease, or gastritis. Constipation (n=28) and gastroesophageal reflux disease (n=21) also were frequent diagnoses; there was no comparable PC code. Various inflammations of the digestive system, including esophagitis, chelitis, diverticulitis, duodenitis, parotitis, and sialadenitis, occurred 14 times without a concurrent PC match. The diagnosis of "anal fistula" appeared 11 times and did not map. Dyspepsia (n=9) was fairly similar to the PC code for gastritis, although the terminology was not exact. Other digestive diagnoses occurred infrequently and included Crohn's disease, bowel obstructions, and minor gastric afflictions.

Symptoms, Signs, and Ill-defined Conditions. This section includes conditions that have no diagnosis classifiable elsewhere in ICD-9 (p. 152, vol. 1).⁷ Of 213 diagnoses attributed to this classification, 95.3% (n=203) could not be mapped to a PC code, because, by definition, they are ill-defined. Pain, including abdominal (n=31), non-cardiac chest (n=18), and other localized pain (n=16) accounted for 32% of these diagnoses. Headache, syncope, nausea, lymphatic system disturbances, nosebleeds, and coughs accounted for another 37%. The remaining 31% of diagnoses included seizure disorder, edema, paresthesia, fatigue, urinary problems, vertigo, breathing problems, and various other minor problems.

Infectious and Parasitic Diseases. The 177 infectious diseases that did not map to a PC code represented 8.0% of the total. More than half of these diagnoses were "viral syndrome," a

term that is too indefinite to map to a PC code. Warts were diagnosed for another 55 cases (31%). Among the remaining 19% of unmapped infectious or parasitic diagnoses were HIV and other conditions with fewer than three occurrences.

Diseases of the Skin and Subcutaneous Tissue. Skin ailments accounted for 7.41% (n=164) of total unmatched diagnoses. Within the category, however, two types of disorders comprised 65% of unmatched cases: these were cysts, abscesses, and acne, with 56 incidences, and infections, with 50 cases. Generally, when skin disorders did not map to a PC code, it was because the diagnostic language differed from that of DEPMEDS. For example, PC 205 covers minor occurrences of boils, furuncles, and pyoderma, while ICD-9 describes cysts and abscesses.

Diseases of the Nervous System and Sense Organs. Of the 139 unmatched diagnoses in this category, only ear infections, eye irritations, eye pains, and blurred vision might have been matched if more diagnostic information were available. These accounted for about 15% of the cases. Ear problems (n=56) such as "earwax," Eustachian tube dysfunction, tinnitus, and ruptured tympanic membrane did not map to a PC code. Other diagnoses, including Bell's Palsy (n=5), carpal tunnel syndrome (n=4), subconjunctival hemorrhage (n=4), occurred infrequently and did not match a specific PC code.

Diseases of the Genitourinary System. The 103 unmatched diagnoses in this category comprised only 4.65% total unmatched cases; however, within the category, more than half the diagnoses (57.54%) did not map to a PC code. There were 12 diagnoses of urethritis, which, if more information were available, might have fallen into PC 269. Other diagnoses, including 33 for urinary tract infection (UTI), 9 for hematuria, and 6 for breast and other cysts, and various infections and minor conditions, did not have counterparts among PC codes.

Diseases of the Circulatory System. There were 104 diagnoses in this category; 69 of them (66.35%) did not match a PC code. More than half of these (n=36) were classified as "hypertension," and, with complete information, might have mapped to PC 258 for "severe hypertension." Arrhythmia and electrocardiovascular disorder account for another 23% of cases; there is no PC match for these diagnoses. The remaining 25% included varicose veins, congestive heart failure, pericarditis, and Raynaud's disease, among other infrequently occurring conditions. None of these mapped to a PC code.

Endocrine, Nutritional, and Metabolic Diseases, and Immunity Disorders. None of the 54 diagnoses in this category matched a PC code. Diabetes (n=21), gout (n=13), and dehydration (n=12) accounted for 85.2% of the cases, and the remaining 15% included thyroid dysfunction, hypoglycemia, hypercholesterolemia, and Bartter's syndrome.

Mental Disorders. In this category, all but 28 of 115 were matched. Most of these (n=24) were nonspecific headache diagnoses.

Diseases of the Respiratory System. Respiratory disorders were second only to Injury and Poisoning in overall frequency (n=1095), but this category comprised only 1.13% of unmatched cases (n=25). Dust allergies (n=9) were the most frequent unmatched diagnosis; the DEPMEDS PC for allergies does not mention specific allergens. Remaining diagnoses included nonspecific "irritations," and chronic conditions. Overall, DEPMEDS is fairly comprehensive in its coverage of respiratory diseases.

Diseases of the Blood and Blood-forming Organs and Congenital Anomalies accounted for only 3 diagnoses, none of which could be matched to a PC code.

Neoplasms. All cases were matched.

Discussion

Findings

The Zagreb database contained 645 diagnoses that were not addressed by DEPMEDS and for which new PCs should be written. Blunt trauma was the only injury without a PC code. Systemic diseases such as arthritis, degenerative joint disease, and diabetes require PC codes. Other conditions that should be addressed by DEPMEDS include arrhythmia, urinary tract infection, infectious diseases (e.g., rubella, scarlet fever, and tuberculosis), ear and eye dysfunction, gout, and thyroid conditions. Less serious conditions also need to be covered by DEPMEDS. These include digestive tract disorders (e.g., constipation, gastroesophageal reflux disorder, and anal fistula), warts, dry skin, varicose veins, and dehydration. Other conditions appeared in more than one ICD-9 major category but did not appear in DEPMEDS; these include inflammations and cysts occurring throughout the body.

If new PC codes were written to account for all of these conditions, 1568 of the Zagreb diagnoses would remain unmatched to a DEPMEDS PC code. Of these, 958 lacked a match because the diagnostic language was not specific enough to determine the precise condition. For example, several classifications of injuries, including burns, fractures, gunshot wounds, amputations, and head injuries, likely could match a PC if more information were available. Digestive disorders, such as gastroenteritis, enteritis, and enterocolitis, also would match a PC with the addition of etiological information. Certain eye and ear disorders and urethritis also lack sufficient diagnostic data for a PC match. As a result, the proportion of diagnoses classified as unmatched may be overestimated.

The remaining 610 unmatched diagnoses were unmatched because, in the Zagreb database, differences between the descriptive language of DEPMEDS PC codes and the diagnostic language used by physicians occurred frequently. This was particularly true among "common" or "minor" ailments such as headaches, gastrointestinal upsets, earaches, minor soft-tissue injuries such as contusions and abrasions, high blood pressure not specified as severe, and skin problems. However, sufficient supplies must be available to treat these disorders; therefore, a standardized language needs to be defined so that they appear in the planning process.

The results of this study should be considered with the understanding that the diagnoses in the database were presumptive; that is, a diagnosis was made on the first visit but was not necessarily validated through follow-up visits.

Recommendations

This observational study has demonstrated a need for comprehensive OOTW data on which to base future medical planning efforts. The Joint Service Working Group for Medical Support of Operations Other Than War, in the minutes for its November, 1996 meeting,⁸ listed

three categories of OOTW besides peacekeeping: humanitarian relief, disaster relief, and garrison care. Data collection is needed for these OOTW as well as for peacekeeping missions.

The DEPMEDS PC list should be expanded to include conditions that are not currently defined. The Joint Service Working Group minutes⁸ also listed areas of care, as opposed to echelons of care, which may need to be augmented for OOTW. The areas of care include pediatrics, obstetrics/gynecology, infectious diseases, internal medicine, and preventive medicine. Also, a unified terminology should be adopted to ensure that all conditions, regardless of nomenclature, are accounted for in the planning process. Finally, a thorough analysis of the relationship between OOTW diagnoses and DEPMEDS needs to be undertaken so that sufficient medical supplies, equipment, and personnel will be available to ensure medical readiness.

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Appendix A – DEPMEDS Patient Condition List

PC#	PC DESCRIPTION
001	Cerebral concussion closed with/without nondepressed linear skull fracture severe – loss of consciousness from 2 to 12 hours
002	Cerebral concussion closed with/without nondepressed linear skull fracture moderate – loss of consciousness less than 2 hours
003	Cerebral contusion closed with/without nondepressed linear skull fracture severe – loss of consciousness greater than 24 hours with focal neurological deficit
004	Cerebral contusion closed with/without nondepressed linear skull fracture moderate – loss of consciousness from 12–24 hours without focal neurological deficit
005	Cerebral contusion closed with intracranial hematoma with/without nondepressed linear skull fracture – severe – large hematoma (including epidural hematoma) with rapidly deteriorating comatose patient
006	Cerebral contusion closed with nondepressed linear skull fracture severe – loss of consciousness greater than 24 hours with/without focal neurological deficit
007	Cerebral contusion closed with depressed skull fracture severe – with associated intracerebral hematoma and/or massive depression
008	Cerebral contusion closed with depressed skull fracture moderate – no associated hematoma or significant effect from depression
009	Cerebral contusion with open skull fracture severe – with intracranial fragments and/or depressed skull fracture; eyelid and eyeball laceration with retained intraocular foreign body
010	Cerebral contusion with open skull fracture moderate – without intracranial fragments and/or depressed skull fracture
011	Intracranial hemorrhage spontaneous nontraumatic all cases
012	Not assigned
013	Wound scalp open without cerebral injury or skull fracture severe – scalped with avulsion of tissue
014	Wound scalp open without cerebral injury or skull fracture moderate – scalp laceration
015	Fracture facial bones closed exclusive of mandible severe – multiple fractures
016	Fracture facial bones closed exclusive of mandible moderate – single fracture
017	Wound face jaws and neck open lacerated with associated fractures excluding spinal fractures severe – with airway obstruction
018	Wound face jaws and neck open lacerated with associated fractures excluding spinal fractures moderate – without airway obstruction; eyelid and eyeball laceration with retained intraocular foreign body
019	Wound face and neck open lacerated without fractures severe – with airway obstructions and/or major vessel involvement
020	Wound face and neck open lacerated contused without fractures moderate – without airway obstruction or major vessel involvement
021	Eye wound severe – loss of intraocular fluid with/without retinal detachment, with severe lid laceration, eye not salvageable

Appendix A – DEPMEDS Patient Condition List

PC#	PC DESCRIPTION
022	Eye wound lacerated moderate – without retinal detachment or retinal injury no foreign body retained without loss of vitreous fluid patient has hyphema eye salvageable
023	Hearing impairment severe
024	Hearing impairment moderate
025	Fracture spine closed without cord damage unstable lesion
026	Fracture spine closed without cord damage stable lesion
027	Fracture spine closed with cord damage cervical spine with respiratory involvement
028	Fracture spine closed with cord damage below cervical spine (progressive)
029	Fracture spine open with cord damage cervical spine with respiratory involvement
030	Fracture spine open with cord damage below cervical spine (progressive)
031	Intervertebral disc disorders with nerve root compression resistant to bed rest/traction
032	Intervertebral disc disorders with nerve root compression responding to bed rest/traction
033	Strains and sprains sacroiliac region severe – nonambulatory
034	Strains and sprains sacroiliac region moderate – ambulatory
035	Burn thermal superficial head and neck greater than 5% but less than 10% of total body area and/or eye involvement
036	Burn thermal superficial head and neck less than 5% of total body area and no eye involvement
037	Burn thermal partial thickness head and neck greater than 5% but less than 10% of total body area and/or eye involvement
038	Burn thermal partial thickness head and neck greater than 5% but less than 10% of total body area and/or eye involvement
039	Burn thermal partial thickness head and neck less than 5% of total body area and no eye involvement
040	Burn thermal full thickness head and neck greater than 5% but less than 10% of total body area with eye involvement
041	Burn thermal full thickness head and neck less than 5% of total body area and no eye involvement
042	Fracture clavicle closed all cases
043	Wound shoulder girdle open with bone injury severe – joint involvement
044	Wound shoulder girdle open with bone injury moderate – no joint involvement
045	Fracture humerus closed upper shaft all cases
046	Wound upper arm open penetrating lacerated without fracture severe – with nerve and/or vascular injury
047	Wound upper arm open penetrating lacerated without fracture moderate – without nerve or vascular injury
048	Wound upper arm open with fractures and nerve and vascular injury arm nonsalvageable
049	Wound upper arm open with fractures and nerve injury no vascular injury arm salvageable
050	Fracture radius and ulna closed severe – shafts of bones
051	Fracture radius and ulna closed moderate – colles fracture
051	Wound forearm open lacerated penetrating without bone nerve or vascular injury with major loss of muscle tissue

Appendix A – DEPMEDS Patient Condition List

PC#	PC DESCRIPTION
	severely requiring major debridement
052	Wound forearm open lacerated penetrating without bone nerve or vascular injury moderate – not requiring major debridement
053	Wound forearm open lacerated penetrating with fracture and with nerve and vascular injury forearm not salvageable
054	Wound forearm open lacerated penetrating with fracture and with nerve and vascular injury forearm salvageable
055	Fracture hand or fingers closed severe – requiring closed reduction
056	Fracture hand and/or fingers closed moderate – not requiring closed reduction
057	Wound hand and/or fingers open lacerated without fractures severe – superficial and deep tendon involvement
058	Wound hand and/or fingers open lacerated without fractures moderate – no tendon involvement or limited to sublimis tendon involvement
059	Wound hand open lacerated contused crushed with fracture(s) all cases – involving fractures of carpals and/or metacarpals
060	Wound fingers open lacerated contused crushed with fracture(s) of phalangeals requiring rehabilitation
061	Crush injury upper extremity severe – limb not salvageable
062	Crush injury upper extremity moderate – limb salvageable
063	Not assigned
064	Dislocation shoulder closed all cases
65	Dislocation/fracture elbow closed acute all cases
066	Not assigned
067	Dislocation hand or wrist closed acute
068	Dislocation fingers closed acute
069	Amputation hand traumatic complete all cases
070	Amputation forearm traumatic complete all cases
071	Amputation full arm traumatic complete all cases
072	Sprain wrist closed acute all cases
073	Sprain thumb closed acute severe
074	Sprain fingers closed acute moderate – no thumb involvement
075	Burn thermal superficial upper extremities greater than 10% but less than 20% of total body area involved
076	Burn thermal superficial upper extremity less than 10% of total body area involved
077	Burn thermal partial thickness upper extremities greater than 10% but less than 20% of total body area involved
078	Burn thermal partial thickness upper extremities less than 10% of total body area involved
079	Burn thermal full thickness upper extremities greater than 10% but less than 20% of total body area involved
080	Burn thermal full thickness upper extremity less than 10% of total body area involved

Appendix A – DEPMEDS Patient Condition List

PC# PC DESCRIPTION

081	Fracture ribs closed severe – multiple fractures
082	Fracture rib(s) closed moderate
083	Injury lung closed (blast crush) with pneumohemothorax severe – one lung with pulmonary contusion and acute severe respiratory distress
084	Injury lung closed (blast crush) with pneumohemothorax moderate – one lung with pulmonary contusion and respiratory distress
085	Wound thorax (anterior or posterior) open superficial lacerated contused avulsed requiring major debridement
086	Wound thorax (anterior or posterior) open superficial lacerated contused avulsed not requiring major debridement
087	Wound thorax (anterior or posterior) open penetrating with associated rib fractures and pneumohemothorax acute severe respiratory distress
088	Wound thorax (anterior or posterior) open penetrating with associated rib fractures and pneumohemothorax moderate respiratory distress
089	Not assigned
090	Burn thermal superficial trunk greater than 20% but less than 30% of total body area involved
091	Burn thermal superficial trunk greater than 10% but less than 20% of total body area involved
092	Burn thermal partial thickness trunk greater than 20% but less than 30% of total body area involved
093	Burn thermal partial thickness trunk greater than 10% but less than 20% of total body area involved
094	Burn thermal full thickness trunk greater than 20% but less than 30% of total body area involved
095	Burn thermal full thickness trunk greater than 10% but less than 20% of total body area involved
096	Wound abdominal wall (anterior or posterior) lacerated avulsed contused without entering abdominal cavity severe – requiring major debridement
097	Wound abdominal wall (anterior or posterior) lacerated avulsed contused without entering abdominal cavity not requiring major debridement
098	Wound liver closed acute (crush fracture) major liver damage
099	Wound liver closed acute (crush fracture) minor liver damage
100	Wound spleen closed acute (crush fracture) all cases
101	Wound abdominal cavity open with lacerating penetrating perforating wound to the large bowel
102	Wound abdominal cavity open with lacerating penetrating perforating wound to the small bowel without major or multiple resections
103	Wound abdominal cavity open with penetrating perforating wound of liver major damage
104	Wound abdominal cavity open with penetrating perforating abdominal wound with lacerated liver

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PC#	PC DESCRIPTION
105	Wound abdominal cavity open with penetrating perforating wound of spleen
106	Wound abdominal cavity open with lacerated penetrated perforated wound with shattered kidney
107	Wound abdominal cavity open with lacerated penetrating perforating wound with lacerated kidney initially repaired but subsequent nephrectomy
108	Wound penetration of pelvis with severe organ damage
109	Wound penetration of pelvis with moderate organ damage
110	Wound buttocks severe – open lacerated penetrating perforating and avulsed
111	Wound buttocks moderate – open lacerated contused and abraded
112	Displaced fracture of pelvis closed with associated soft tissue damage and pelvic organ damage
113	Nondisplaced fracture of pelvis closed with associated soft tissue damage
114	Wound abdomen open with pelvic fracture and penetrating perforating wounds to multiple pelvic structures (male or female)
115	Wound abdomen open with pelvic fracture and penetrating perforating wounds to pelvic colon only (male or female)
116	Wound external genitalia male severe – lacerated avulsed crushed
117	Wound external genitalia male moderate – abraded and contused
118	Wound external genitalia female severe – lacerated avulsed crushed
119	Wound external genitalia female moderate – abraded contused
120	Fracture closed femur shaft all cases
121	Wound thigh open without fracture nerve or vascular injury requiring major debridement
122	Wound thigh open without fracture nerve or vascular injury not requiring major debridement
123	Wound thigh open lacerated penetrating perforating with fracture and nerve/vascular injury limb not salvageable
124	Wound thigh open lacerated penetrating perforating with fracture and nerve and/or vascular injury limb salvageable
125	Wound knee open lacerated penetrating perforating with joint space penetration shattered knee
126	Wound knee open lacerated penetrating perforating with joint space penetration articular cartilage damage no bone injury
127	Fracture closed tibia and fibula shaft all cases
128	Wound lower leg open lacerated penetrating perforating without fractures requiring major debridement
129	Wound lower leg open lacerated penetrating perforating without fractures not requiring major debridement
130	Wound lower leg open lacerated penetrating perforating with fracture and nerve/vascular injury limb not salvageable
131	Wound lower leg open lacerated penetrating perforating with fracture and nerve and/or vascular injury limb salvageable
132	Fracture ankle/foot closed displaced requiring reduction
133	Fracture ankle/foot closed nondisplaced not requiring reduction
134	Wound ankle foot toes open lacerated contused without fractures but requiring major debridement

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PC#	PC DESCRIPTION
135	Wound ankle foot toes open lacerated contused without fractures not requiring major debridement
136	Wound ankle foot toes open penetrating perforating with fractures and nerve/vascular injury limb not salvageable
137	Wound ankle foot toes open penetrating perforating with fractures and nerve and/or vascular injury limb salvageable
138	Crush injury lower extremity limb not salvageable
139	Crush injury lower extremity limb salvageable
140	Dislocation hip closed acute all cases
141	Tear ligaments knee acute complete rupture
142	Tear ligaments knee acute incomplete rupture
143	Dislocation toes closed acute all cases
144	Amputation foot traumatic complete all cases
145	Amputation below knee traumatic complete all cases
146	Amputation traumatic complete requiring hip disarticulation
147	Amputation above knee traumatic complete
148	Sprain ankle closed acute with complete ligament rupture
149	Sprain ankle closed acute, grade 2 incomplete ligament rupture
150	Burn thermal superficial lower extremities and genitalia greater than 30% but less than 40% of total body area involved
151	Burn thermal superficial lower extremity and genitalia greater than 15% but less than 30% of total body area involved
152	Burn thermal partial thickness lower extremities and genitalia greater than 30% but less than 40% of total body area involved
153	Burn thermal partial thickness lower extremity and genitalia greater than 15% but less than 30% of total body area involved
154	Burn thermal full thickness lower extremities and genitalia greater than 30% but less than 40% of total body area involved
155	Burn thermal full thickness lower extremity and genitalia greater than 15% but less than 30% of total body area involved
156	Blisters hand fingers foot toes due to friction acute moderate all cases
157	Insect bites and stings (unspecified body area) with systemic symptoms and/or respiratory difficulty
158	Bites and stings (unspecified body area) moderate localized symptoms
159	MIW brain and chest with sucking chest wound and pneumothorax
160	MIW brain and abdomen with penetrating perforating wound colon
161	MIW brain and abdomen with penetrating perforating wound kidney
162	MIW brain and abdomen with penetrating perforating wound bladder
163	MIW brain and abdomen with shock and penetrating perforating wound spleen
164	MIW brain and abdomen with shock and penetrating perforating wound liver
165	MIW brain and lower limbs requiring bilateral above knee amputations

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PC#	PC DESCRIPTION
166	MIW chest with pneumothorax and abdomen with penetrating wound colon
167	MIW chest with pneumothorax and abdomen with penetrating perforating wound kidney bladder
168	MIW chest with pneumothorax and abdomen with perforating wound bladder
169	MIW chest with pneumothorax and abdomen with penetrating perforating wound spleen
170	MIW chest with pneumothorax and abdomen with penetrating perforating wound liver
171	MIW chest with pneumothorax and limbs with fracture and vascular injury
172	MIW abdomen with penetrating perforating wound of colon and bladder
173	MIW abdomen with penetrating perforating wound of colon and spleen
174	MIW abdomen with penetrating perforating wound of colon and liver
175	MIW abdomen and limbs with penetrating perforating wound of colon and open fracture and neurovascular injury of salvageable lower limb
176	MIW abdomen and pelvis with penetrating perforating wound of liver and kidney
177	MIW abdomen and pelvis with penetrating perforating wounds of spleen and bladder
178	MIW abdomen pelvis limbs with fracture and neurovascular injury limb salvageable and penetrating wound kidney
179	MIW abdomen pelvis limbs without fracture or neurovascular injury and penetrating perforating wound bladder
180	MIW abdomen and lower limbs with fracture and nerve injury with penetrating wound of spleen with full thickness burns to greater than 20% of TBSA
181	MIW abdomen and limbs without fracture or nerve injury with penetrating wound of liver
182	MIW chest with pneumothorax soft tissue injury to upper limbs and penetrating wound of brain
183	MIW chest with pneumothorax soft tissue injury to upper limbs and abdomen with wound of colon
184	MIW chest with pneumothorax pelvis and abdomen with wound of colon and bladder
185	MIW abdomen and chest with multiple organ damage
186	Multiple nonpenetrating fragment wounds of skin and soft tissue
187	Trench foot immersion foot severe – vesicle formation
188	Trench foot immersion foot moderate – no vesicle formation
189	Not assigned
190	Frostbite full skin thickness or deeper involvement
191	Frostbite less than full skin thickness
192	Hypothermia all cases
193	Heat stroke
194	Heat exhaustion

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PC#	PC DESCRIPTION
195	Heat cramps all cases
196	Appendicitis acute with perforation rupture peritonitis
197	Appendicitis acute without perforation rupture peritonitis
198	Inguinal hernia complicated direct or indirect sliding incarceration of bowel
199	Inguinal hernia uncomplicated direct or indirect no sliding no incarceration of bowel or bladder
200	Internal derangement of knee chronic with torn meniscus and/or ligament laxity
201	Strain lumbosacral sacroiliac joint chronic all cases
202	Eczema dermatitis seborrheic contact others affecting weight bearing or pressure areas
203	Eczema dermatitis seborrheic contact others not affecting weight bearing areas
204	Boils furuncles pyoderma requiring surgery
205	Boils furuncles pyoderma all other cases
206	Cellulitis involving face or weight bearing areas
207	Cellulitis other than face or weight bearing areas
208	Dermatophytosis severe – affecting feet
209	Dermatophytosis all other cases
210	Pediculosis all cases
211	Scabies all cases
212	Pilonidal cyst/abscess requiring major excision
213	Pilonidal cyst/abscess requiring minor incision
214	Ingrown toenails bilateral with secondary infections unresolvable at Echelon 2
215	Ingrown toenails without secondary infection
216	Herpes simplex and zoster without encephalitis all types all cases
217	Not assigned
218	Not assigned
219	Hyperhidrosis all cases
220	Blepharitis all cases
221	Conjunctivitis severe all cases
222	Conjunctivitis moderate all cases
223	Corneal ulcer
224	Corneal abrasion
225	Iridocyclitis acute marked visual impairment

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PC#	PC DESCRIPTION
226	Iridocyclitis acute minimal visual impairment
227	Refraction and accommodation disorders refraction required
228	Refraction and accommodation disorders replacement of spectacles required
229	Otitis externa all cases
230	Otitis media acute suppurative all cases
231	Not assigned
232	Allergic rhinitis all cases
233	Upper respiratory infections acute including tonsillitis all cases
234	Bronchitis acute all cases
235	Asthma with disabling symptoms or repeated attacks
236	Asthma other cases
237	Not assigned
238	Not assigned
239	Acute respiratory disease severe
240	Acute respiratory disease moderate
241	Not assigned
242	Not assigned
243	Food poisoning all organisms disabling symptoms
244	Food poisoning all organisms moderate symptoms
245	Diarrheal disease severe
246	Diarrheal disease moderate
247	Upper gastrointestinal hemorrhage gastritis or ulcer
248	Dyspepsia acute all cases
249	Peptic ulcer gastric or duodenal penetrating and/or perforating
250	Peptic ulcer gastric or duodenal uncomplicated
251	Regional ileitis disabling symptoms unresponsive to treatment
252	Regional ileitis responds to treatment
253	Helminthiasis all cases
254	Not assigned
255	Migraine all cases
256	Hemorrhoidal disease all cases

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PC#	PC DESCRIPTION
257	Not assigned
258	Severe hypertension
259	Ischemic heart disease
260	Phlebitis deep vein involvement
261	Not assigned
262	Tenosynovitis elbow wrist shoulders etc.
263	Meningo-encephalitis uncomplicated
264	Meningo-encephalitis complicated
265	Near drowning without cervical spine injury or hypothermia all cases
266	Toxic inhalation including burni-related respiratory injuries severe all cases
267	Not assigned
268	White phosphorus burns resultant partial thickness burns < 40% TBSA all cases
269	Sexually transmitted diseases (STD) urethritis
270	Sexually transmitted diseases (STD) genital ulcers and/or adenopathy
271	Sexually transmitted diseases (STD) complicated
272	Glomerulonephritis acute
273	Glomerulonephritis chronic
274	Pyelonephritis acute secondary to obstruction
275	Pyelonephritis acute no obstruction
276	Nephrotic syndrome all cases
277	Ureteral calculus causing obstruction impacted
278	Ureteral calculus not causing obstruction
279	Epididymitis cystitis prostatitis acute all cases
280	Balanoposthitis all cases
281	Not assigned
282	Infectious mononucleosis all cases
283	Hepatitis infectious viral all cases
284	Not assigned
285	Cholecystitis acute with stones all cases
286	Pancreatitis acute all cases
287	Cirrhosis all cases

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PC#	PC DESCRIPTION
288	Not assigned
289	Neoplasms malignant
290	Neoplasms benign
291	Abnormal uterine bleeding (Not included in calculation of BAS wartime supplies)
292	Dysmenorrhea amenorrhea (Not included in calculation of BAS wartime supplies)
2293	Pelvic inflammatory disease (PID) all cases (Not included in calculation of BAS wartime supplies)
294	Cervicitis endocervicitis with symptomatic leukorrhea (Not included in calculation of BAS wartime supplies)
295	Vulvovaginitis (Not included in calculation of BAS wartime supplies)
296	Not assigned
297	Tubal pregnancy all cases (Not included in calculation of BAS wartime supplies)
298	Not assigned
299	Abortion spontaneous with hemorrhage (Not included in calculation of BAS wartime supplies)
300	Not assigned
301	Psychosis
302	Conduct disorders
303	Non-psychotic mental disorders
304	Stress reaction severe unstable slow improvement
305	Stress reaction severe stable slow improvement
306	Alcohol dependency syndrome moderate
307	Alcohol misuse simple intoxication
308	Drug dependency (other than alcohol) severe
309	Drug misuse (other than alcohol) mild or moderate
310	Stress reaction mild/moderate
311	Eye wound lacerated penetrated with retinal injury eye salvageable
312	Wound knee open lacerated penetrating perforating with joint space penetration no bone or articular cartilage
313	Wound abdominal cavity open with lacerated penetrating perforating wound kidney moderate – kidney salvageable
314	Stress reaction severe unstable delayed improvement
315	Stress reaction severe unstable persisting
316	Alcohol dependency severe – impending or actual DTs
317	Drug misuse (other than alcohol) severe – atypical no dependency
318	Stress reaction severe – rapid improvement

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PC#	PC DESCRIPTION
319	Wound fingers open lacerated contused crushed with fracture(s) of phalangeals not requiring rehabilitation
320	Dislocation/subluxation temporomandibular joint without fracture chronic requiring correction
321	Dislocation/subluxation temporomandibular joint without fracture acute initial injury
322	Fracture mandible with/without oral laceration without airway involvement unstable severe requiring open reduction
323	Fracture mandible with/without oral laceration without airway involvement mild displacement stable
324	Stress reaction severe stable – delayed improvement
325	Stress reaction severe stable persisting
326	Not assigned
327	Not assigned
328	Animal bites and rabies exposure
329	Trachoma all cases
330	Schistosomiasis all cases
331	Malaria severe – all species
332	Malaria moderate – all species
333	Febrile illness acute severe – except malaria and pneumonia
334	Febrile illness acute moderate
335	Snake bite
336	Not assigned
337	Not assigned
338	Not assigned
339	Cutaneous ulcers including leishmaniasis
340	Not assigned
341	Not assigned
342	Not assigned
343	Not assigned
344	Not assigned
345	Not assigned
346	Eye wound directed energy induced (laser) severe of macula and/or optic nerve with vitreous blood severe visual loss one or both eyes
347	Eye wound directed energy induced (laser/rfr) moderate to severe posterior nonmacular nonoptic nerve visual loss secondary to vitreous blood

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PC# PC DESCRIPTION

- 348 Eye wound directed energy induced (laser) moderate nonmacular nonoptic nerve no vitreous blood
- 349 Eye wound directed energy induced (laser/rfr) mild to moderate anterior pain with photophobia and disruption of corneal integrity
- 350 Eye wound directed energy induced (laser) mild flash blindness no permanent damage

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